



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
-P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/810,956	03/16/2001	Aiko Hanyu	COS-822	7257

7590

07/13/2006

Jim Wheelington  
Fina Technology, Inc.  
P.O. Box 674412  
Houston, TX 77267-4412

EXAMINER
----------

TARAZANO, DONALD LAWRENCE

ART UNIT	PAPER NUMBER
----------	--------------

1773

DATE MAILED: 07/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/810,956  
Filing Date: March 16, 2001  
Appellant(s): HANYU ET AL.

**MAILED**  
JUL 14 2006  
**GROUP 1700**

---

Gene L. Tyler  
For Appellant

**SUPPLEMENTAL  
EXAMINER'S ANSWER**

This is in response to the appeal brief filed May 02, 2005, but per the Board remand dated 03/10/06, the examiner obtained a full translation of the reference upon which the rejection is based. The basis of the rejection remains the same, but has been embellished based on the results of the full translation.

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

**(4) *Status of Amendments After Final***

The appellants' statement of the status of amendments after final rejection contained in the brief is correct.

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6) *Issues***

The appellants' statement of the issues in the brief is correct.

**(7) *Grouping of Claims***

The rejection of claims 1, 6-11, 14-19, 24, 25, 28-30, 33, 35-38, and 41-42 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

**(8) *Claims Appealed***

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) *Prior Art of Record***

JP 11-060833	Idemitsu Petrochem Co. LTD.	03-1999
EP 0 669 348	Sumitomo Chemical Company	08-1995

**(10) *Grounds of Rejection***

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 6-11, 14-19, 24, 25, 28-30, 33, 35-38, and 41-42 stand rejected under 35 U.S.C. 102(b) as being anticipated by JP-11-060833.

The Japanese patent document teaches monolayer heat sealable films made from a composition comprising metallocene-catalyzed propylene copolymer (A) blended with a second propylene polymer (B). The blend of (A) to (B) is 1:99 to 50:50 by weight of the fore mentioned polymers.

Polymer (A) is isotactic in nature and had a random distribution of the comonomer. The comonomers present include those claimed and the amount of comonomer (1-15%) overlaps the claimed range.

#### Section [0005]

(A) random copolymer compromising a propylene and a comonomer, ethylene, and/or an  $\alpha$ -olefin having 4 to 20 carbons and comprising an isotactic structure obtained by a metallocene catalyst as constituent (A) (called "propylene random copolymer," hereafter).

Polymer (B) is random copolymer made by a conventional catalyst.

JP-11-060833 uses a metallocene catalyst system, the same comonomers, and the same comonomer amounts. Given the catalytic systems and the starting materials, there is reason to believe that the blend of materials taught would have the claimed physical properties.

The applicants claim a seal initiation temperature "of less than 125°C", and lowest sealing temperature (shown for prior art blend) has value of 127 °C .

#### Summary of the Examples

Seal Sealing Temperature °C	Polymer A Metallocene Catalyzed Polypropylene		Polymer B Conventional Polypropylene	
128	5.8% Ethylene	9 parts	5.9% Ethylene	91 parts
127	6.7% Ethylene	9 parts	5.9% Ethylene	91 parts
136	None		5.9% Ethylene	100 parts

**The relationship of Comonomer Content and Sealing / Melting Temperatures:**

First: It is well known in the art that the comonomer disrupts the crystal structure of the primary monomer and the more random the packing the lower the melting point / seal initiation temperature.

This same concept is clearly conveyed by 11-060833 [0012]:

First, the content of the comonomer unit measured in a  $^{13}\text{C}$ -NMR method falls in a range of 1 to 10 % by weight. If the content of this comonomer unit is less than 1 % by weight, the low-temperature heat sealability of the resulting film is insufficient. Moreover, if it exceeds 10 % by weight, the antiblocking ability and rigidity of the film decline.

Thus, higher monomer content would clearly decrease the values, this is shown by the effect of increasing the monomer content from Example I of 5.8% comonomer to Example II of 6.7%. A higher level of ethylene comonomer would place the seal initiation temperature within the claimed range.

Second: The comparative example made solely of polypropylene B, has a sealing point of 136 °C which is significantly higher than the values shown for the blends having 9 parts of polypropylene A. The amount of Polymer A can be varied according to the reference. In the examples 9 parts of A are used, and addition of this polymer decreases the sealing temperatures of the compositions. An increase in the amount of polymer A about that amount would also decrease the heat sealing temperature.

Both an increase in the amount of ethylene in polypropylene A and the overall amount of polypropylene A over the values used in the examples would decrease the sealing point of the composition. The effects of both of these parameters are clearly shown in the examples and

there is significant room above the examples in the ranges for these values and still be within the working framework of the reference.

**The differences between 127 °C and 125 °C are not critical:**

The melting points of polymers are not sharp so there is experimental error in the values; a two-degree melting difference is not very significant. Furthermore, the two samples are not compared to each other under the same conditions / equipment.

The appellants claim oriented films; a film going through an extruder will be oriented to some degree.

It has been held that where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. *In re Best*, 195 USPQ 430, 433 (CCPA 1977). When there is sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 6-11, 14-19, 24, 25, 28-30, 33, 35-38, and 41-42 stand rejected under 35 U.S.C. 103(a) as being unpatentable over JP-11-060833.

5. The comonomer content as discussed above is within the claimed range. The prior art examples (Polypropylene A) have low comonomer content. It would have been obvious to one having ordinary skill in the art to have used higher comonomer contents, within the breath of the disclosure, for applications in which a lower melting point was desired. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have increased the amount of polymer A in order to decrease the seal initiation temperature of the heat seal layer.

6. Claims 1, 6-11, 14-19, 24, 25, 28-30, 33, 35-38, and 41-42 stand rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0-669-348 A-1 in view of JP-11-060833 or the converse.

The European patent teaches oriented films having a base layer of isotactic polypropylene and a heat sealable propylene layer made by metallocene catalysis. The patent also shows that is common in the art to use a sealable layer on a polypropylene substrate to improve the sealing properties of the film.

The Japanese document teaches compositions comprising random / isotactic propylene copolymer made by metallocene catalysis, which have good seal properties.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the materials taught by JP-11-0608833 as the surface layer in the films taught by EP 0-669-348 A-1, in order to produce heat sealable films. The metallocene catalyzed polypropylenes taught are functionally equivalent heat sealable materials, and this is merely the substitution of one functionally equivalent material for another.



It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the polymers taught by JP-11-060833 in multilayer and optionally oriented films since it is common in the art to make conventional isotactic polypropylene heat sealable by the addition of a sealable layer.

**(11) Response to Argument**

7. The appellants argue that the claims 1, 6-11, 14-19, 24, 25, 28-30, 33, 35-38, and 41-42 are not anticipated by JP-11-060833 under 35 U.S.C. 102(b).

8. While the appellant claim a wide range of seal initiation temperatures, the examiner is focused on the upper end of the range (125 °C). The appellant argues that the two-degree difference between the prior art and the claimed invention is significant.

a. First, the examples of the prior art have relatively a low comonomer content and the prior art clearly teaches that higher comonomer contents or amounts of polymer can be used. The increase in comonomer content or amount of metallocene catalyzed polymer furthermore an increase in the amount of metallocene catalyzed polypropylene (A) would make the blend have a lower seal initiation temperature.

b. Second, seal initiation temperature of polymers is not a sharp measurement. Polymers do not have the sharp melt characteristics of pure small organic molecules.

c. Third, a two-degree difference should not be considered to be significant. One must remember that these are measured quantities with no experimental error has been reported for the values. It would be scientifically irresponsible to believe the applicants value of 125 °C is clearly different from a value of 127 °C as reported in the prior art. There is no indication that these temperatures were measured under the same conditions.

9. The appellants state that a two-degree difference is significant when sealing films. This may be true, but it appears that a side-by-side comparison of the materials under exacting conditions would be necessary to elucidate these differences. It must be clear that there really is a difference.

10. The appellants argue that the catalyst systems are not the same.

11. While the catalyst systems are not identical, the same class of catalyst is used and it behaves in a similar manner. While there may be some differences in the products observed, the materials are not claimed in a way to differentiate them from the prior art. The claimed melt properties, seal initiation temperature, gloss, etc... are all characteristics of polymers produced by metallocene catalysis.

12. The appellants state that varying the amount of ethylene in the copolymer is undesirable. Please, understand that the ethylene content suggested is neither outside of the amounts claimed by the appellant nor the amount suggested by the reference.

13. The appellants argue that the claims 1, 6-11, 14-19, 24, 25, 28-30, 33, 35-38, and 41-42 are not obvious over JP-11-060833 under 35 U.S.C. 103(a).

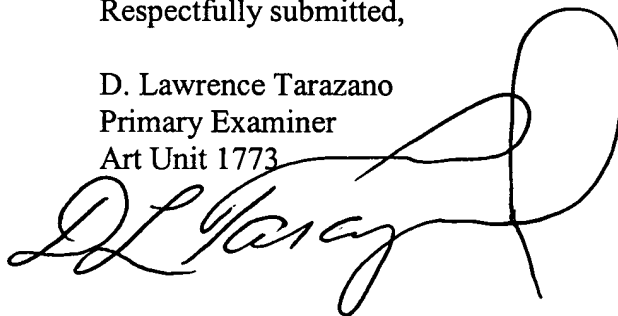
14. As set forth above, there is clear reason to believe that claimed materials are clearly taught by JP-11-060833. There is a clear relationship between the seal initiation temperature of the polymer and the comonomer content. Since a low comonomer content is shown in the examples, it would have been obvious to one having ordinary skill in the art to have increased the comonomer content within the scope of the disclosure 1-15%, in order to decrease the seal initiation temperature of the polymer.

15. The appellants argue that the claims 1, 6-11, 14-19, 24, 25, 28-30, 33, 35-38, and 41-42 are not obvious over JP-11-060833 and EP 0 669 348 under 35 U.S.C. 103(a). This combination of references merely builds upon the previous rejections. It merely provides motivation to produce multilayer structures.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

D. Lawrence Tarazano  
Primary Examiner  
Art Unit 1773



Jim Wheelington  
Fina Technology, Inc.  
P.O. Box 674412  
Houston, TX 77267-4412



CAROL CHANEY  
SUPERVISORY PATENT EXAMINER

APPEAL CONFEREES: \_\_\_\_\_



APPEAL CONFEREES: \_\_\_\_\_